

**To:** Shamet, Stefania[Shamet.Stefania@epa.gov]  
**From:** Jacobus, Thomas P WAD  
**Sent:** Fri 1/23/2015 2:09:22 PM  
**Subject:** RE: [EXTERNAL] RE: Wednesday update: Washington Aqueduct plan to discharge Georgetown Basin #1 (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Stef,

I'll have it in about two hours.

Please don't interpret my slowness as lack of need. I was diverted to a series of personnel issues yesterday.

Sorry to hear that you've been ill. So far I've escaped the bug.

Tom

-----Original Message-----

From: Shamet, Stefania [mailto:Shamet.Stefania@epa.gov]  
Sent: Friday, January 23, 2015 7:39 AM  
To: Jacobus, Thomas P WAD  
Cc: Seligman, Andrew  
Subject: Re: [EXTERNAL] RE: Wednesday update: Washington Aqueduct plan to discharge Georgetown Basin #1 (UNCLASSIFIED)

Hi Tom! Just checking in on this in case I've missed an email. I've been out sick so no rush on my end, but wanted to make sure nothing was falling through the cracks. Thanks.

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From: Jacobus, Thomas P WAD <Thomas.P.Jacobus@usace.army.mil>  
Sent: Wednesday, January 21, 2015 1:40 PM  
To: Shamet, Stefania  
Subject: Re: [EXTERNAL] RE: Wednesday update: Washington Aqueduct plan to discharge Georgetown Basin #1 (UNCLASSIFIED)

Ok. I'll draft this afternoon. Thanks.

Sent from my BlackBerry 10 smartphone on the Verizon Wireless 4G LTE network.

Original Message  
From: Shamet, Stefania  
Sent: Wednesday, January 21, 2015 1:03 PM  
To: Jacobus, Thomas P WAD; Seligman, Andrew  
Subject: [EXTERNAL] RE: Wednesday update: Washington Aqueduct plan to discharge Georgetown Basin #1 (UNCLASSIFIED)

Hi Tom. Ok, I think what we need at this point is an email that can properly be characterized as a plan and pulls it all together. It should include the following:

(1) Description of how much water will be used for dilution and how the dozer will be used to stir up (re-suspend) the sediment. Also how many hours over which the discharge will occur. Should include how frequently during the discharge this will be done or an explanation regarding likelihood of re-settling during the discharge and how that can be addressed.

(2) Monitoring/sampling plan -- locations of sample points and frequency of sampling during the discharge. What will be sampled? The discharge? Receiving water plume? TSS? NTU?

(3) If TSS exceeds 18,000 mg/L or NTU exceeds 8,000 units, what is the plan?

I think once we have that, that is something we can share with Josh and move forward.

I am out tomorrow and out of pocket. Hoping to be back available on Friday.

-----Original Message-----

From: Jacobus, Thomas P WAD [mailto:Thomas.P.Jacobus@usace.army.mil]

Sent: Wednesday, January 21, 2015 12:51 PM

To: Shamet, Stefania; Seligman, Andrew

Subject: Wednesday update: Washington Aqueduct plan to discharge Georgetown Basin #1 (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

We've got about 7 million gallons of water in the basin and all the sediment stirred up. That part was easier to do than we imagined.

A sample this morning was 1.6% solids or about 16,000 mg/Lit.

I went down to look and took another sample. It's very "liquid."

As you can see in the photo it's dark, but not in any way viscous.

The photo from today shows a black ridge down the center with dark liquid to the sides. The ridge is concrete.

You can see that in the last empty photo of the basin taken in April 2012 (attached).

We're ready to go when we get clearance. While we drain we'll push lots of flush water behind this and it will therefore get less and less dense as it goes along.

Tom

-----Original Message-----

From: Jacobus, Thomas P WAD

Sent: Tuesday, January 20, 2015 12:24 PM

To: 'Shamet, Stefania'; 'Seligman.Andrew@epa.gov'

Subject: Washington Aqueduct plan to discharge Georgetown Basin #1 (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Stef and Andrew,

Washington Aqueduct has analyzed the situation at Georgetown Basin #1 in terms of our estimate of the sediment remaining in the basin, the volume of the basin, the ability of our equipment to stir up the solids into a uniform concentration, and the equipment we have to get rapid evaluation (within an hour) of the concentration of the material being discharged.

Based on earlier calculation and information supplied to you and to DC DOE we estimated that the total solids collected in Georgetown (both basins together) since it was last time it was completely cleaned in December 2012 was 6.5 million pounds.

The normal flow rate through both basins (together) is 65 million gallons per day that then goes for filtration and disinfection at the McMillan Water Treatment Plant. The normal distribution between the two basins (Basin #1 is only 1/5th the size of Basin #2 and we run Basin #1 at a slower rate) is about 5 MGD through Basin #1 and 60 MGD through Basin #2.

Using that ratio (5/65), the expected solids collected in Basin #1 would be 500,000 pounds.

Assuming that 10 percent of those solids were discharged when we initially opened the valve and drained the basin leaves 450,000 pounds.

We plan to fill the basin so that it has about 4 feet of water in it. That will allow the front end loader to safely move the solids into suspension and for it to re-suspended them as the draining proceeds.

The profile of Basin #1 when the water surface elevation is at 136 feet (mean sea level) compared to the elevation of the drain invert of 132 feet (MSL) shows that 7.2 million gallons of water are in the basin.

That works out to 0.07 pounds of sediment per gallon which converts to 8,400 milligrams/Liter.

We have the ability to use a turbidimeter to measure up to 8,000 NTU for each sample collected. We will collect samples every four hours. We also have a machine at the residuals processing facility that can directly measure density in milligrams/Liter and get a result in an hour from the time we collect the sample.

The physical plan is to add water to the basin via the conduit from the Georgetown Reservoir and regulate the drain so that the incoming water keeps the total volume essentially constant. We also will take a hose and pump water from Basin #3 (settled water) into the drain to further dilute what is entering the discharge pipe from Basin #1.

We are filling Basin #1 now and will be testing the efficacy of using the front end loader to be the mixing device to make sure it is safe to use it, and we will get a preliminary concentration based on the mixing we do.

We will not open the drain and make any discharge until you and DDOE have agreed that this proposal is acceptable.

Once we begin, I estimate this may take about 4 to 5 days to complete. We will only work during the daylight hours (and not on the weekend).

If our testing of this concept today indicates any change to this proposal, I will let you know. When we spoke on Friday it was my understanding that we would limit ourselves to an instantaneous discharge concentration of 8000 NTU or if we use mg/L we would use 18,000. As the calculations above indicate, we should be well below that.

Tom J  
202-764-0031

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